



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,935	12/14/2004	Roberto Lanfredi	262883US0XPCT	8635

22850 7590 03/26/2007  
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER
----------

LISTVOYB, GREGORY

ART UNIT	PAPER NUMBER
----------	--------------

1711

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	03/26/2007	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 03/26/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com  
oblonpat@oblon.com  
jgardner@oblon.com

## Office Action Summary

Application No.

10/516,935

Applicant(s)

LANFREDI ET AL.

Examiner

Gregory Listvoyb

Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 3/3/2005.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

Claims 1-4, 6-7 and 10 rejected under 35 U.S.C. 102(b) as being anticipated by Ingram et al (US patent 4692472) herein Ingram.

Regarding claims 1, 6, 7 and 10 Ingram discloses a process for the preparation of expandable vinylaromatic polymers (i.e. styrene, Column 1, line 50) which comprising:

- a) forming an expandable bead by polymerizing in aqueous suspension of at least one vinylaromatic monomer in the presence of a suspending agent selected from inorganic salts of phosphoric acid;
- b) recovering the expandable beads bead from the reaction container;
- c) washing the beads expandable bead thus obtained with an aqueous solution containing 0.15% by weight of a non-ionic surface-active agent (polyoxyethylene (20) sorbitan) ;
- d) recovering the washed beads expandable bead substantially without any inorganic salt of phosphoric acid, on the surface, and drying them in a stream of air (Example 1).

Regarding claim 2, polymerization is carried out at the presence of initiator and expanding agent (column 2, line 55 and column 2, line 10).

In reference to claim 3, the initiator system comprises two peroxides: benzoyl peroxide and t-butyl perbenzoate, which are used in the Application presently examining.

In reference to claim 4, expanding agent is pentane, which has a boiling point within the range of 10-100C (Example 1).

***Claim Rejections - 35 USC § 103***

Claims 1 and 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Ingram in combination with Davis et al (US patent 4174427) herein Davis.

Ingram discloses a process for the preparation of expandable vinylaromatic polymers for making disposable cups (see discussion above).

Ingram does not disclose the washing procedure in a stirred container at temperature ranging from 20-50C at surfactant concentration ranging from 0.005% to 5% by wt.

Davis teaches a method of making expandable polystyrene beads for making cups, where washing procedure takes place in a stirred container at 40-55C at the presence of alkoxyated nonionic surfactant at concentration within 0.001 to 1%wt

Art Unit: 1711

(Claim 1). Such a procedure found effective in order to eliminate hydrophilic polymer, which prevents a cup licking.

It would be obvious to a person with ordinary skills in the art to use Davis's washing procedure in Ingram's process in order to produce a final product of high quality.

Claims 1, 5 and 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Ingram in combination with Gluck (US patent 6414041) herein Gluck.

Ingram discloses a process for the preparation of expandable vinylaromatic polymers for making disposable cups (see discussion above).

Ingram does not teach expanded articles with density ranging from 5 to 50 g/l and 0.05-25% of refracting material in a final article.

Gluck teaches an expandable styrene polymer with density from 5 to 80 g/ml (column 2, line 45) with graphite content from 0.1 to 25%wt.

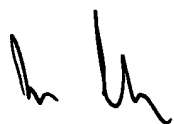
Such polystyrene can be used in heat insulating articles. The preferable density of can be achieved primarily by varying amount of blowing agent in the process.

It would be obvious to a person with ordinary skills in the art to vary amount of blowing agent and use graphite in Ingram process. In allows to increase an applicability range of Ingram's polymers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory Listvoyb whose telephone number is (571) 272-6105. The examiner can normally be reached on 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



James J. Seidleck  
Supervisory Patent Examiner  
Technology Center 1700

Gregory Listvoyb  
Examiner  
Art Unit 1711

\*\*\*